

Sustaining Performance

with Energy Project Management Services.



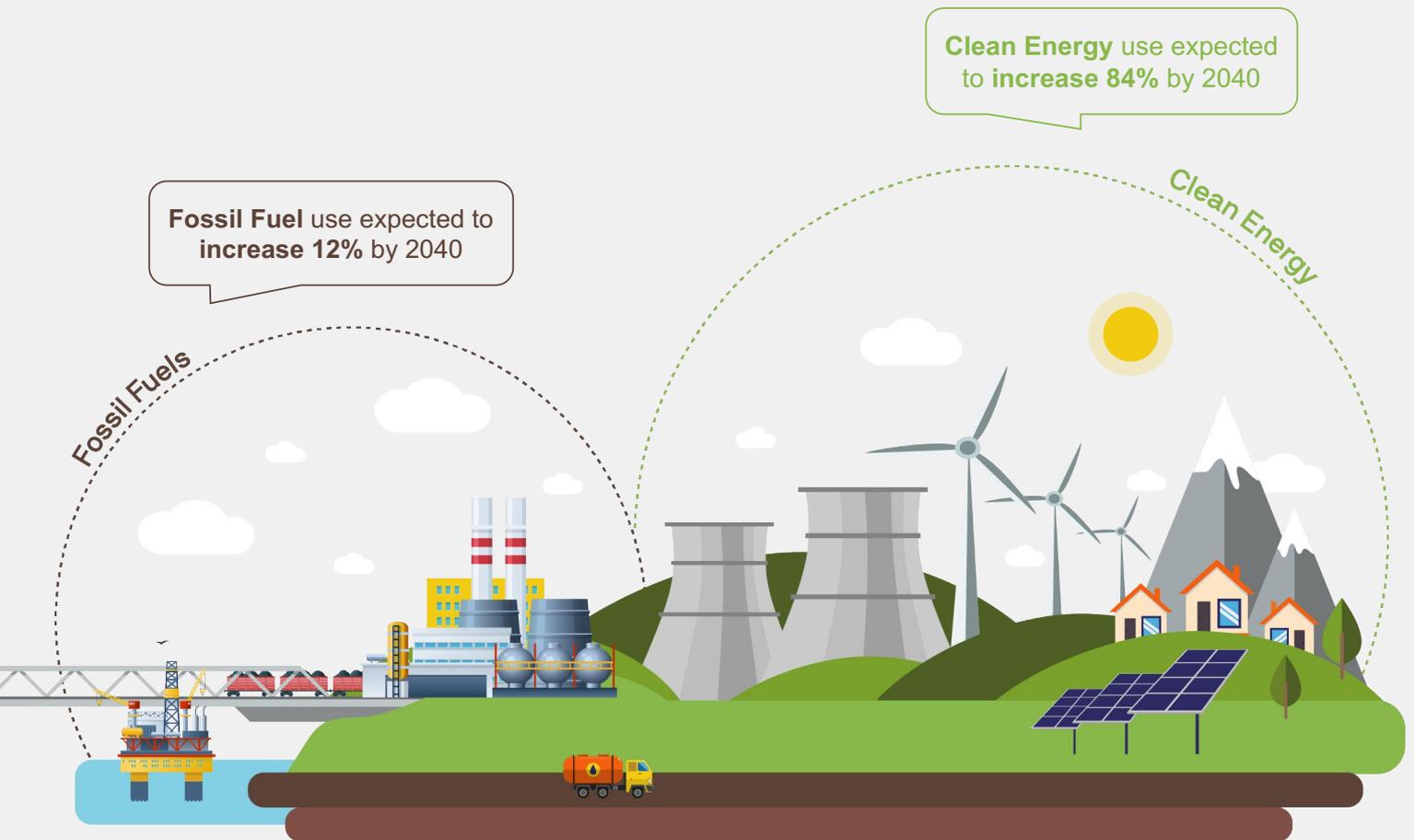
Introduction.

With rising environmental concerns and an increasing demand for fuel and electricity around the globe, companies across the Energy sectors are under more significant pressure than ever to deliver clean, reliable, and affordable energy.

The success of these companies has substantial economic and environmental implications. The scale of a typical energy project is massive when compared to other industries. Hence, their projects are highly regulated by local governments and face intense public scrutiny. For example, decommissioning a Nuclear power plant can take at least seven years for decontamination with up to 60 years of dismantling after that. In comparison, a typical [Automotive Industry](#) project lasts 5 years and is shrinking.

Energy projects are not only extremely time-consuming but also resource-intensive, both of which are very costly. Effective risk, schedule, and cost management are therefore vital to these projects. Yet, companies too often fall behind schedule, spend over budget, and endure costly issues.

To compound this, the Energy industry encompasses a broad group of sectors: Oil & Natural Gas, Coal, Nuclear, Wind, Solar, Hydro, Geothermal, etc. Each contains very different types of organizations and projects; what constitutes for risk in wind projects is far different than in Nuclear. Nevertheless, they all share a similar challenge: to produce more energy at a lower cost with fewer emissions.



Oil & Natural Gas

Coal

Nuclear

Renewables

These two types of fossil fuels have been the world's primary source of energy for decades and will continue to be for the foreseeable future. Natural Gas is expected to increase in demand, more than Oil, as it is the cleanest of the fossil fuels.

As a high-carbon-emitting fossil fuel, coal consumption is not expected to increase significantly in the next decades. Therefore, organizations are investing less in this energy source.

Nuclear power is currently the most efficient source of low-carbon energy. As such, investment in this sector should increase more than it currently is for a greater reliance on clean energy.

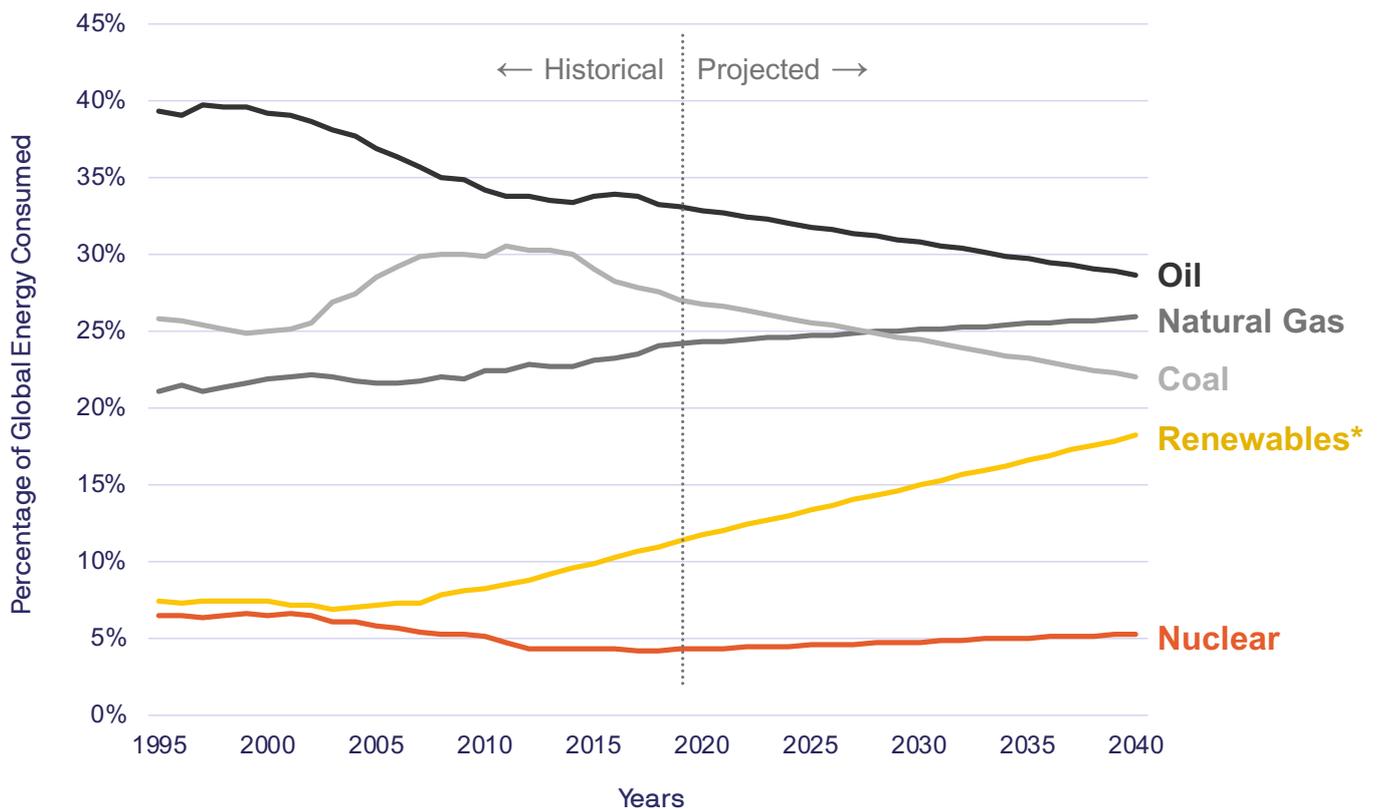
Renewable energy is collected from sources that are naturally replenished on a human timescale. This sector is seeing advancements in technology and greater investment as the need for clean energy grows.

Each organization is taking a different strategy to achieve this: investing in more efficient processes, entering greener markets, or even innovating new energy solutions. On the road to [zero emissions by 2050](#), how companies shift their strategy to supply clean energy will determine who competes in the industry going forward. And only those with robust and adaptable project, program, and portfolio management practices will survive.

Let's explore a few different sectors within the Energy Industry, what challenges companies are facing, and how they can sustain performance through strong project management.

Global Energy Consumption by Source

Looking to lower CO2 emissions and increase clean energy use



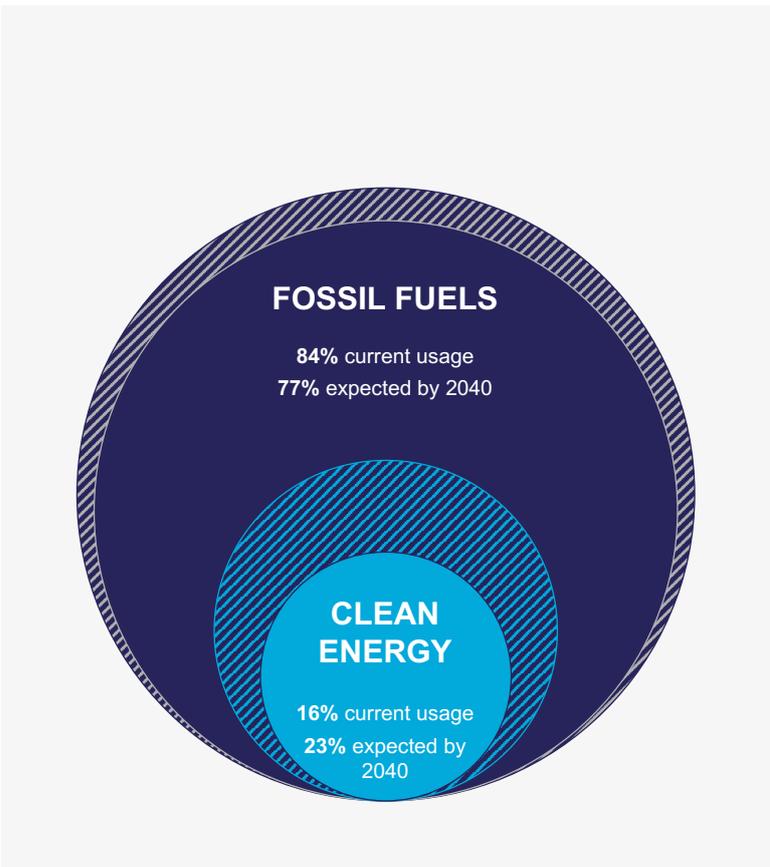
*Renewables, including Hydropower

Historical data according to BP's Statistical Review of World Energy 2020, with projected data according to IEA's World Energy Outlook 2019.



Oil and Gas.

Together oil and gas are the primary source of energy around the globe, and as our demand for energy continues to rise, they aren't going away anytime soon. Nevertheless, we are seeing a change in people's behavior that could alter the future of the industry. The recent pandemic certainly plays a factor in this change and the rising concern over our environmental health even more so.



Historical data according to BP's Statistical Review of World Energy 2020, with projected data according to IEA's World Energy Outlook 2019.

While moving towards a green future will take time and effort from everyone, there is undoubtedly pressure on oil and gas companies to focus on cleaner energy. Recently Exxon and Chevron have been in the spotlight as shareholders pressure the oil and gas giants to more significantly reduce emissions. Shell was even taken to court for promising to reduce emissions only 20% by 2030 instead of the 45% reduction needed by then. [\(The Verge\)](#)

Most have been investing in green energy and diversifying their portfolios for years.

- » Total and Eni are among others who recently announced plans to increase investments in offshore wind energy.
- » Chevron has partnered with Toyota to develop [hydrogen powered transportation](#).
- » GRTgaz launched their “We are renewable gases” campaign as they explore alternative fuels from bio-mater and hydrogen.

For companies whose business relies on fossil fuels, shifting toward green energy is especially challenging. However, the real challenge is making their products efficient, reliable, and cost effective enough to meet both the energy demands of consumers and the profit demands of shareholders.



“Over the next few years, energy companies, especially in oil and gas, must continue to lower costs, lower carbon emissions, and lower risk,” said Alf Raju, Business Director at MI-GSO | PCUBED San Francisco.



“These have become requirements for businesses to thrive and survive in today’s energy market.

Lowering cost requires the relentless pursuit of improving efficiencies in every aspect of the value chain. One of the ways companies can do this is to become more Agile. [Business Agility](#) focuses on how to deliver value throughout the project and on improving processes. One of our clients in oil and gas is getting there through their digital transformation program, which aims to automate processes and gather insights on performance.

Not every project fits perfectly into Agile. However, those projects can be managed in a hybrid way that adopts the ability to change and be flexible. That’s the true nature of Agile: a cultural shift at the enterprise level to adapt and be flexible.

Nevertheless, this is challenging for companies in legacy industries such as oil and gas. Once they understand and adopt this mindset, companies can explore strategies like Lean Portfolio Management to better manage their value streams.

An important fact to consider, besides all the hard skills that are needed to meet these challenges, is that oil and gas companies will need to continuously develop the softer skills of communication, collaboration, and innovation. In some ways, **the continued development and successful use of soft skills is the hardest part of all, yet they are absolutely required for success.**

Through our [Project Management as a Service](#), our clients have access to these skills. We help them to strengthen the core project management skills required to deliver projects efficiently and successfully.”



Nuclear.

In moving to low-carbon energy sources, we are inevitably challenged with mitigating a loss in energy reliability. Renewable resources generally have a more intermittent capacity than non-renewables because they are affected by weather conditions. This either needs to be balanced by huge energy storage systems, currently infeasible, or by low carbon “always on” capacity such as nuclear or decarbonized oil & gas. This is the real driver for continued investment in nuclear energy.

One area that is advancing in this sector is fusion technology, and MI-GSO | PCUBED has already worked with several

fusion clients across Europe. [Nuclear fusion](#) is the process of combining atomic nuclei, compared to fission where they are split. Although challenging to sustain, fusion reactions are more efficient. Therefore, we will likely see this displace fission over the next 50-100 years.

While nuclear energy is promising to increase total energy supply reliably without emitting greenhouse gases, many nuclear plants are beginning to age-out and close. This leaves a gap in nuclear energy production, which must increase at a faster rate than it currently is to meet future clean energy demands. To do so, there must be greater investment in

nuclear energy, which starts with seeing success from current nuclear new build projects.

One of the greatest challenges the nuclear sector faces is getting investors on-board with new projects. Then when they do, projects face many years of planning, engineering, and construction, all while battling heavy administration. For example, Finland's Olkiluoto 3 nuclear plant, which uses EPR technology, has been under construction since 2005. [Only recently have terms been reached for the project to finish in 2022](#), nearly 17 years after construction began.

As time passes there is a greater likelihood of delays, which imposes the risk of projects overspending and not delivering outcomes successfully. The timeline for nuclear projects already covers at least a decade, so the risk of delays and overspending makes it difficult to see any return on investment, and certainly not early-on.

How then, can nuclear organizations combat these challenges? The first step is to ensure project deliverables are met on time and within budget. Companies need full-scope project management capabilities and controls that enable managers to proactively identify, analyze, and communicate potential issues. The next step is to develop better ways of working throughout the entire project. Companies must innovate to remove project hindrances and always find ways to optimize processes.



“In the Nuclear sector, there is concern that projects are delayed so much that they get cancelled. Many are late and over budget.” said David Whitmore, head of Energy at MI-GSO | PCUBED UK.



In David’s recent [article from the Nuclear Institute](#), he identifies delayed decision making as a root cause for nuclear projects which suffer from poor predictability.

“There is a critical time to make a decision before it’s too late and the risk becomes too great. The problem for Nuclear companies is that the stakeholder map is very complex in the Western hemisphere. Therefore, the challenge is how to manage your stakeholders and improve the decision-making process.

We at MI-GSO | PCUBED are using [Lean Innovation](#) techniques to speed up the decision-making process, and we believe there is great potential in this. Companies in the Nuclear sector are not often leveraging the full capabilities of Lean Innovation or may not understand how to incorporate this way of thinking into their processes.

Agile also has the potential to play a key role in this sector. Regulations require a minimum acceptable level of safety and a target level to be met. This equates the minimum viable product and incrementally added features of Agile. Using agile could be the way to go for the design and development of new nuclear plants. This is closely related to our engineering agility model.

Of course, traditional project management approaches are still important, but we’re trying to bring more modern methods into those traditional practices. It is hard to compete in this field. Not only is it highly fragmented, but like other energy sectors, it’s very competitive. The key for companies to compete is to do more than just manage their schedules, but to also focus on process improvement.

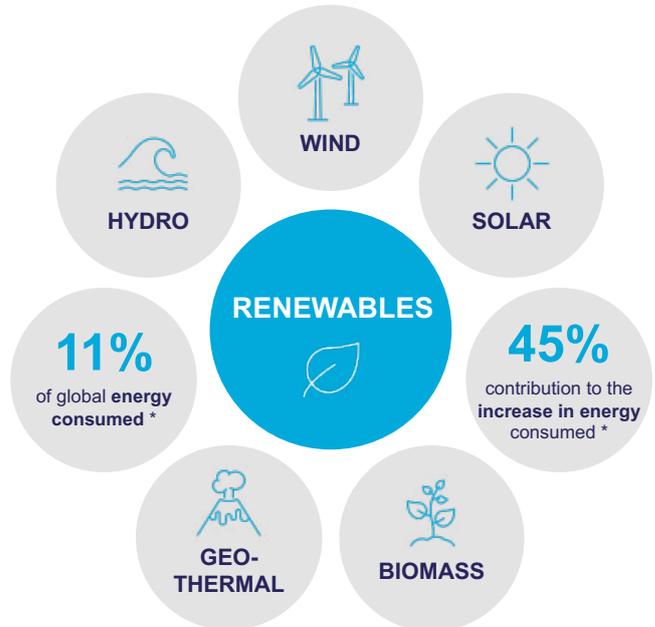
This is what our teams are doing. **We don’t just drive projects; we actually improve them as we go.”**



Renewables.

There is a lot of investment in renewable energy today as the world looks to produce more sustainable energy. Many companies are entering this sector from non-renewables as they look to diversify their portfolios. There are also many start-ups emerging here and bringing in new technology.

With so many interested and already investing, this sector is very competitive. Therefore, companies are under great pressure to not only deliver projects successfully but also to demonstrate their ability to do so before the project even begins.



* Data according to BP's Statistical Review of World Energy 2020.

“The concept of ‘renewable’ in Energy can be a bit ambiguous,” said Dorian Brun, Business Manager at MI-GSO | PCUBED Paris.



“One can think of exploring energy in two ways: natural or not. However, there is an environmental impact regardless. All companies are looking to become more sustainable, so they are seeking ways of moving along the spectrum of “renewable” towards greener energy sources and more efficient processes.

Hydrogen energy, for example, is one of the technologies that companies are exploring on their journey toward cleaner energy, and governments are also beginning to invest more heavily in this. With new technology, though, comes new challenges.

Beginning a new project or program from scratch is very difficult in this industry: there are new contracts, new ways to manage, lots of competition, and many regulations. **Companies have to really optimize their schedules and accurately estimate costs for future projects in order to win a contract.** That’s why having expertise in project management is so essential. With our PPM expertise and our experience in diverse industries, MI-GSO | PCUBED is able to provide this support.

There are also many audits that require a lot of documentation for projects in this sector. Companies need to be precise with good, accurate predictive analytics. This is another way we can help. We are not only project managers but also data visualization experts.”



“There is a lot of potential for growth in the renewable sector,” said Jeremy Marti, head of Energy at MI-GSO | PCUBED France.

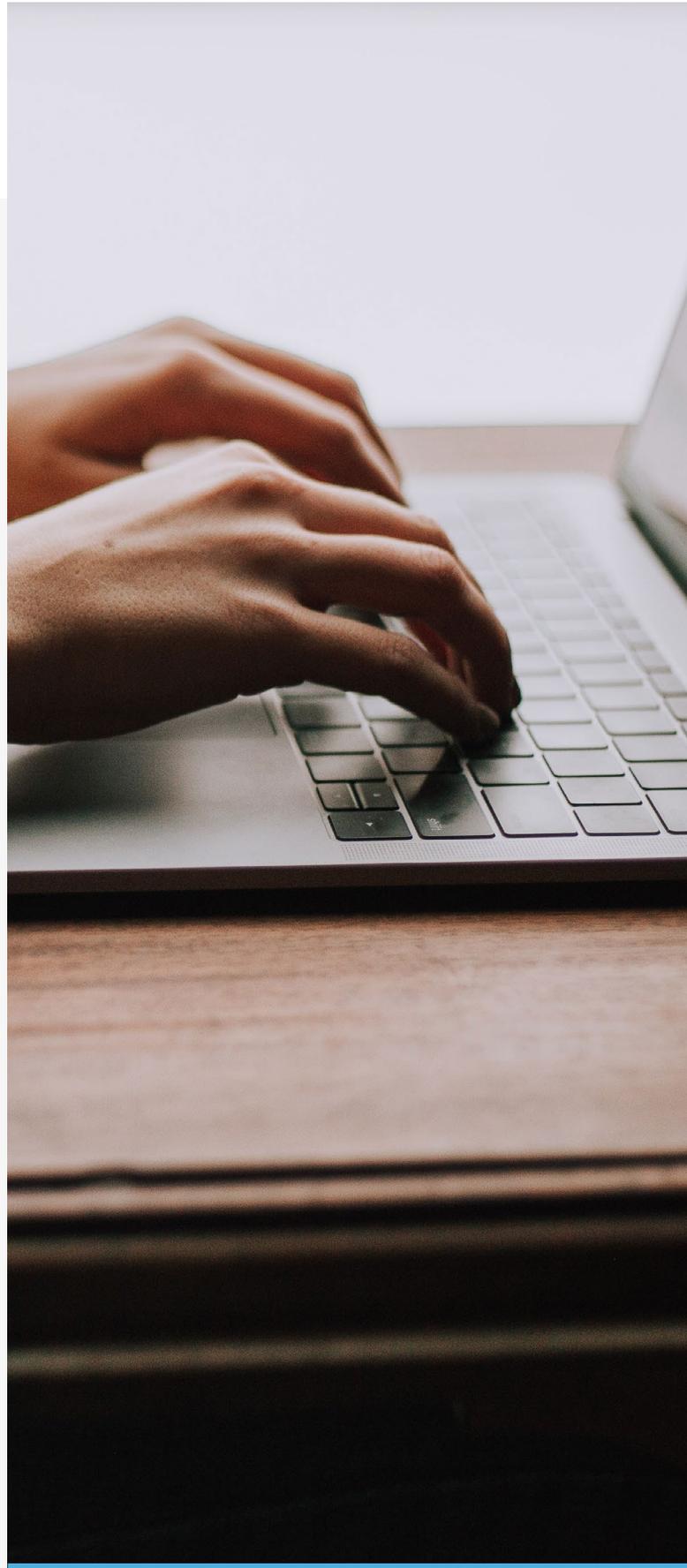


“The key challenge in this is not just the idea of green energy but shifting the business model to support those activities.

You need a business model that focuses on efficient processes and eliminating waste. That means **improving your ways of working, becoming leaner, and being more adaptable.**

At MI-GSO | PCUBED, we are using digital tools and processes to do this. In a [digital PMO](#), data collection and treatment can be automated, allowing for greater productivity. In fact, a digital PMO tool can reduce the time to collect and treat data by 50%, which means managers have more time to focus on analysis and innovation. Then, the next step is using artificial intelligence to forecast.

Digitalization is something companies want and have to do, but they are slow to innovate and change because of administration and because their scale of business is just so large. Our teams are able to step in here to transform their ways of working while still supporting the traditional PMO work and managing project controls.”



Key strategies to reduce costs and optimize performance.

MI-GSO | PCUBED is building our footprint in the Energy Industry and has grown exponentially in this sector over the past several years. Energy projects are rarely localized in one region, so our global outreach and strong network allows us to support clients locally, nationally, and internationally.

Along our journey in this sector, we have identified four key recommendations for organizations to succeed by reducing costs and optimizing performance:

01 Ensure project controls are efficient and predictive.

Energy projects are often very large-scale and have a lot of inertia. That makes change difficult and slow. Effective project controls, the core measures used to monitor control project outcomes like schedule, risk and cost management, are vital to anticipate problems. The key is ensuring these tools and processes engage key stakeholders proactively and supply accurate data. Data that must be

continuously updated and synchronized with each other so managers know exactly how and where the project needs support before significant delays occur.

02 Focus on Lean Innovation to improve business processes.

For companies to truly optimize performance, they must remove waste from their processes. That is, removing hindrances and inefficiencies in all aspects of the business. Lean Innovation is a method of doing just that.

Lean Innovation starts with aligning people on a common vision and strategy, and then breaking that into smaller increments for achieving it. Then companies can scale up their processes across the entire business. By continuously innovating and improving through this method, companies can deliver the most value with the lowest cost and effort.

03 Harness data through digital transformation.

Everyone is experiencing the world more digitally every day, and every company is finding ways to automate, digitalize, and streamline their use of technology. For most Energy companies, the potential for growth and cost savings is especially promising, there is so much room for innovation.

Digital transformation can allow these companies to:

- » Automate processes and reduce errors.
- » Collect data for consistent and reliable reporting.
- » Identify risks and opportunities early.
- » Improve knowledge and communications.

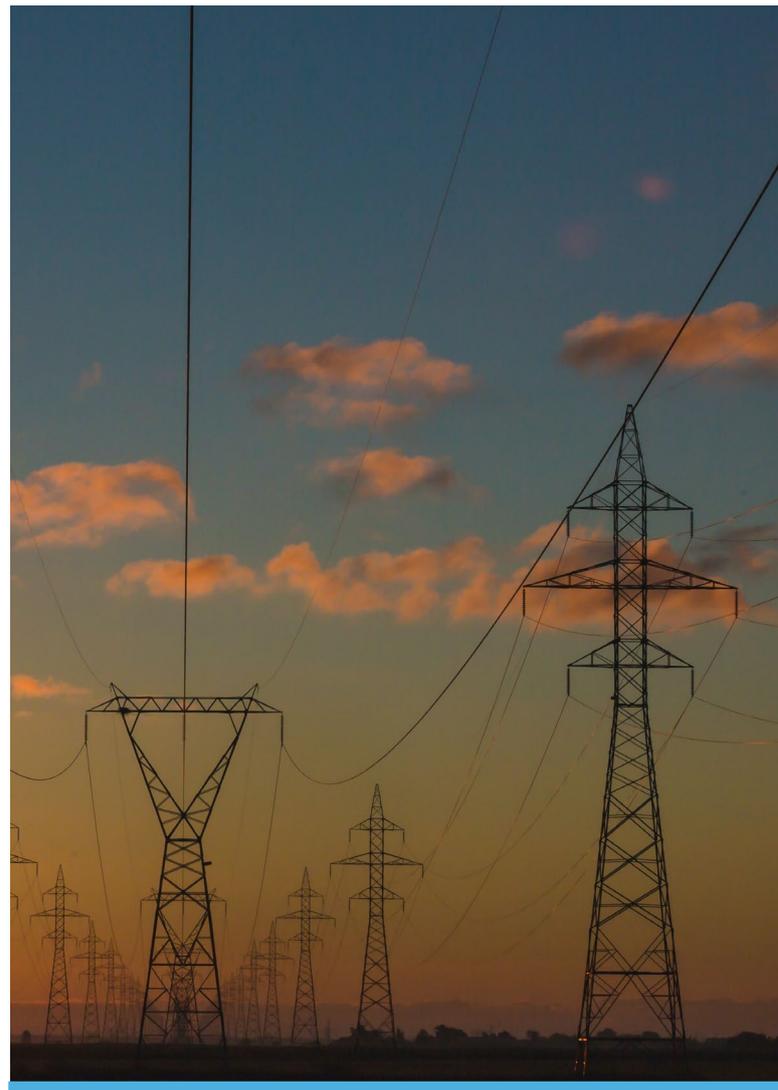
04 Move towards Agile processes.

While Agile is typically associated with tech and asset-light organizations, there is a broad range of Agile principles that very much apply to the Energy industry. Agile focuses on clearly defining project goals and breaking these down into production systems that can be better optimized. It also enables continuous delivery by adding value to every step of the project and reducing the time it takes to identify and resolve problems. This mentality can, and should, be applied to Energy projects regardless of their length. Then, once organizations shift their mindset to be more adaptable at the

project level, they can shift their portfolio management strategy to incorporate lean thinking as well. [SAFe](#) describes Lean portfolio management as one of the competencies in business agility that allows companies to align strategy with execution.

With this approach, companies can understand what their work and financial capacities are and determine how to invest in work that aligns with their business strategy and delivers the most value.

See how we have helped clients optimize performance below.



NUCLEAR

Schedule Management for EPR Station Engineering

INTRODUCTION

Our client, a global leader in nuclear power, is working to build a nuclear power station using EPR (European Pressurized Reactor) technology. M|P is supporting the client's communications and project controls, including large-scale schedule management, for the engineering of the new station.

CHALLENGE

There are thousands of engineers working on the plant design, and the approval of similar EPR nuclear projects depends on the success of this one. Therefore, the engineering teams must be aligned and the schedule well managed in order for the project to successfully be completed.

SOLUTION

With nearly 30 consultants in different PMO entities, M|P synchronizes processes and facilitates communication between the engineering groups. We also manage the scheduling of thousands of sub-project activities while providing consistent reporting on the overall project and cost status.

BENEFITS

As a long-time partner of the client, M|P has enabled their engineering teams to perform well and on-time with alerts raised right away for any risks or issues. Our team-oriented approach focusing on people and processes has allowed the different teams to share best practices and align on common objectives.

RENEWABLES

Project Controls for Offshore Wind Energy Connection

INTRODUCTION

Our client, an electricity network and transportation company, is working to capture and transport the energy produced from offshore wind farms to power stations in nearby cities. MJP, as their project management partner, is supporting the project management activities across several offshore wind farm projects as they connect to the power grid on land.

CHALLENGE

Building electricity lines from the water to the grid is a large undertaking, especially since the projects are publicly funded. Additionally, many organizations are involved, so coordinating the activities between project stakeholders is especially challenging.

SOLUTION

MJP has developed and deployed a full-scope PMO responsible for schedule, cost, and risk management as well as reporting. Our team ensures the project is well managed, with predictive project controls and accurate data analysis.

BENEFITS

Our team has helped the client to deliver several important milestones during the project's planning phase, including the start of on-site construction. We also mitigated several significant project risks along the way. This has paved the way for the timely completion of the rest of the project.

Conclusion.

Living in a sustainable world feels daunting at the moment; we have a long road ahead of us to produce truly clean energy. Nevertheless, companies are taking steps to get there by shifting their business strategy and exploring better ways of working. There is a huge opportunity for companies to thrive in the Energy industry if they can sustain performance through project management.

At MI-GSO | PCUBED, we are proud to partner with organizations to help them achieve this. Our global footprint allows us to support our clients anywhere, to understand different people's ways of working, and align them on the same methodology. We challenge companies to innovate and improve while providing the project management they need to deliver successfully.

Interested in more of our experience in Energy? Check out our other case studies:



[Delivering Value for a Rapidly Changing Nuclear Business](#)



[Digital Transformation in Oil & Gas Retail](#)

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